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ABSTRACT

In the fall of 1992, Wechsler Intelligence Scale for Children-III (WISC-III) scores from 330 referred children in an urban midwestern school district were analyzed to provide information regarding score distribution of the referred population and of the ethnic and gender profiles within the referred group, and to examine changes from prior WISC-Revised (WISC-R) scores, changes in subtest scores, and correlation with current achievement test scores. Results suggest scale-score decreases consistent with those presented by the test manual and do not indicate any significant differences for ethnic or gender groups in terms of mean group differences or correlations with achievement tests. (Contains 10 references and 4 tables.) (Author/SLD)

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ED 371 051

ANALYSIS OF WISC-III DATA FROM AN URBAN POPULATION OF REFERRED CHILDREN

A paper prepared for the National School Psychologist Association Convention
March 3, 1994 Seattle Washington

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Abstract: In the Fall of 1992, Wisc-III scores from 330 referred children in an urban, midwestern school district, were analyzed to provide information regarding score distribution of the referred population and of the ethnic and gender profiles within the referred group, to and to examine changes from prior WISC-R scores, changes in subtest scores, and correlation with current achievement test scores. Results suggest scale score decreases consistent with those presented by the test manual, and do not indicate any significant differences for ethnic or gender groups in terms of group mean differences, or correlations with achievement tests.

Background: The Wechsler Scales have been among the primary instruments for assessing cognitive ability in the field of school psychology. With the advent of the WISC-III, it is important to provide research data based on referred children, to insure continued confidence in this instrument. The relationship of this test to the WISC-R scores, and to current achievement measures is of particular interest to school psychologists who are responsible for monitoring a child's learning potential to assist in devising remediation and intervention programs.

WISC-III test publishers suggest that evaluators should expect a decrease in scores from the WISC-R to WISC-III will average -2(V), -7(P), and -5(FS) for normal populations, and slightly greater at the lower end of the standard scores. Correlations were consistently high. (Wechsler, D., 1991). Studies presented in the literature or at national conventions are very consistent with studies presented in the manual, with group mean differences (WISC-III/WISC-R) for clinical groups ranging from -0.82 to -8.9 for verbal SS, -3.9 to -9.2 for performance SS. and --2.3 to -8.9 for full scale scores. Group mean differences for gifted groups ranged from -5 to -14 (V), -1 to -7.6 (P) and -4.9 to -12.8 (FS) (Aichinger, K., Bolen, L., Hall, C., & Webster, R., 1993; Klein, E. & Fisher, G., 1993; Levinson, E., & Folino, L., 1993; Newby, R., Recht, D., Caldwell, J., & Schaefer, J., 1992; Sevier, R., Bain, S., & Hildman, L., 1993).

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Studies in the manual and the literature in regard to correlation with achievement measures are variable in results. For normal populations the correlations are respectable, with higher correlations for verbal scores and achievement than performance scores and achievement. With restricted populations, (ie, retarded populations) correlations are generally non-significant. (Slate, J., Jones, C., Graham, L., Bower, J., 1993; Weiss, L., Prifitera, A., & Roid, G., 1992; Wislar, J., Bolen, L., Hall, C., & Webster, R., 1993).

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RESULTS OF THE CURRENT FIELD STUDY

Subjects: The total data collected for the current study included scores from 330 WISC-III administrations, primarily from a two month time period, by a total of 45 psychologists. For 118 of the 330 administrations, WISC-R data given within 1 to 3 years was available. For 120 of the 330 administrations, concurrent WRAT-R data was available. Subtest scores for both the WISC-R and subsequent WISC-III were available for 52 of the students.

	WISC-III	WISC-III/ WISC-R	WISC-III WRAT-R
Total N	330	118	120
Mean age:	11.21	12.8	10.9
Age sd	2.7	2.3	2.6
% Male	70%	60%	74%
% Black	60%	53%	75%
% LD reevals	28%	45%	18%
% CD re-evals	10%	13%	9%
% ED re-evals	10%	10%	7%

Data and summary

WISC-R/WISC-III scores for a referred sample of urban students. The WISC-R scores were obtained between 1989 and 1991. WISC-III scores were obtained during the 1992-93 school year. N= 118 Age X at WISC-III administration = 12.8
Males= 60% Females = 32% Unlisted gender = 8% Black= 52% White= 25%

	Mean	Standard Deviation
WISC-R Verbal Scale	82.7	14.0
WISC-R Performance Scale	87.3	14.9
WISC-R Full Scale	83.6	13.7
WISC-III Verbal Scale	76.6	13.1
WISC-III Performance Scale	79.2	15.2
WISC-III Full Scale	75.8	13.7
Verbal Scale Difference	-6.1	8.8
Performance Scale Difference	-8.1	9.9
Full Scale Score Difference	-7.7	8.9

WISC-III/WISC-R Comparisons: NASP 1994 Convention

Summary of WISC-III/WISC-R Difference scores

	N	verbal	performance	Full Scale	Age
Full group X	118	-6.068	-8.333	-7.718	12.8
sd		8.773	9.885	8.857	2.3
r		0.781	0.786	0.800	ns
Male X	71	-5.257	-7.714	-6.657	12.8
sd		9.248	9.870	9.184	2.2
Female X	38	-6.921	-9.053	-8.921	12.8
sd		7.175	9.754	7.481	2.2
Black X	61	-5.8	-8.233	-7.400	12.6
sd		8.352	10.280	9.095	2.2
r		0.778	0.683	0.752	-0.378/fs
White X	30	-6.000	-8.700	-7.433	13.0
sd		8.777	9.270	8.601	2.1
r		0.696	0.803	0.746	-0.333/fs
LD X	53	-7.811	-9.302	-8.868	12.6
sd		8.429	10.319	8.901	2.1
r		0.714	0.728	0.734	-0.450/fs
ED X	12	-7.000	-11.364	-9.727	13.032
sd		10.227	12.307	10.011	2.3
CD X	15	-4.6	-6.533	-6.667	13.37
sd		8.542	7.900	8.330	1.99

WISC-R/WISC-III subtest scores for a referred sample of urban students. The WISC-R scores were obtained between 1989 and 1991. The WISC-III scores were obtained when re-evaluating those same children during the 1992-93 school year.
N= 52 Age X at WISC-III administration = 11.8
Males= 62% Females = 33% Unidentified gender = 8%
Black= 58% White= 27% Other = 15%

	Info	Sim	Arith	Voc	Comp	Pa	PC	BD	OA	Cd
WISC-R	6.8	8.9	7.3	8.5	8.8	9.0	8.9	7.9	8.1	7.4
WISC-III	5.8	6.5	6.2	5.9	7.2	7.2	7.3	6.3	6.2	6.6
Diff	1.0	2.4	1.1	2.6	1.6	1.8	1.6	1.6	1.9	0.8

Pearson Correlation matrix for WISC-III and WRAT-R scores for a referred group of urban children
N=120

	WRAT-R		
	Reading	Spelling	Arithmetic
WISC-III Verbal	.502	.437	.601
WISC-III Performance	.327	.331	.495
WISC-III Full Scale	.442	.413	.588

Our data suggests that the good psychometric properties are intact: correlations, and standard deviations match the standardizing population, and that appears to hold true across race, gender and exceptional education category.

Our children are showing a group decrease which is generally consistent with the decreases in the literature (verbal decrease: -6, performance decrease: -8.3; FS decrease: -7.7) The standard deviations of the decreases are high, ranging around 9 points, which results in over 15% of our re-evaluations with more than a 16 point decrease in IQ. The high SD around the difference is a result of a range of differences from +13 to -26 for full scale IQ, with no real pattern emerging. That is, while there is some tendency for older children to show a greater decrease, no set of variables are clearly reliable in predicting which children will show a moderate decrease, which will show a large decrease and which will show an increase in scores. Subtest analysis suggests that the scale score decrease is related to evenly distributed decreases in subtest scores which is basically similar across ethnic groups for our sample of referred children.

Achievement scores are highly consistent with WISC-III scores in our sample, and even for children with surprisingly low WISC-III scores, their WRAT-R scores are likely to be

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